BOOK 10

PEOPLE'S ACTION

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... the two worlds of Man—the biosphere of his inheritance, the technosphere of his creation—are out of balance, indeed potentially in deep conflict. And Man is in the middle. This is the hinge of history on which we stand, the door of the future opening onto a crisis more sudden, more global, more inescapable and more bewildering than any ever encountered by the human species and one which will take decisive shape within the lifespan of children who are already born.

— *Barbara Ward and Rene Dubos*
in *Only One Earth*
(W.W. Norton & Co., New Delhi)

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Peoples' Action

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During the last 20 years or so, environmental consciousness in India has grown tremendously. This is a remarkable change. Yet environmental consciousness often means very different things to different sections of society, and this is reflected in their response to environmental problems.

How do poor villagers, for instance, face environmental crises ? The first response is to develop coping strategies. People will go further to collect clean drinking water, or shift from a scarce resource like firewood to one more easily available like dung to burn as fuel.

The next step is the *perception of how and why* the resources are being depleted or destroyed. When hill-dwellers see that deforestation on the mountain slopes is contributing to flash floods that threaten the existence of their villages, they begin to make crucial linkages. They begin to ask: Who is responsible ? Where is the wood going ? Who benefits ?

The *understanding* that comes from such questioning forms a basis for the next stage in the people's response —*organising for action.* As the peoples' response matures, the emphasis shifts from securing the present to conserving the future, *from protest to positive action.* From an organised demand to stop the felling of trees, they may move to growing trees themselves to protect sensitive watersheds.

The Chipko movement to protect the Himalayan forests in Uttar Pradesh went through similar stages. Chipko's role in afforestation and watershed development, and the relative

success of village women in ensuring the equitable distribution of firewood and grass, is acclaimed as a model for achieving a balance between conservation and human needs. However, the environmental objectives — which were closely linked with economic objectives — took years to develop. This is a continuous process of learning and finding new solutions.

Well-to-do urbanites are rarely in a position when they need to develop coping strategies to deal with environmental problems in order just to survive. (More typical would be a car-user-changing to a model which consumes less petrol, to cope with rising petrol prices). On the whole, the urban citizen's perception and understanding of the linkage between resources, consumption, environment and development are learnt rather than experienced. The better-off inhabitants of cities benefit from resources such as timber, minerals and the generation of electricity which are extracted or produced in distant rural areas. The distance makes it difficult for them to perceive any negative environmental impact. Because they lack the knowledge that comes from immediate experience they may respond to an environmetal crisis in a superficial way, as a fashion or a fad. This is why educated people sometimes seem to lack the capacity to take the hard decisions necessary to deal with an environmental problem.

NGOs

Some Non-Government Organisations (NGOs) and small voluntary groups (both rural and urban based) have succeeded in bringing environmental issues onto a national platform. The Kerala Sastra Sahitya Parishad, which spearheaded the campaign to save Silent Valley in the Western Ghats, is one well-known example.

Many groups all over the country see environmental education for both rural and urban people as the means to create a broad-based and abiding concern for the environment. Some organisations use the media, as a powerful ally, in bringing environmental issues into the forefront. Others, recently, have taken recourse to the law.

Government

Until recently the Government's response has mainly been in setting up agencies, formulating regulations and enacting legislations to protect the environment. The setting up of the Ministry of Environment was part of this response. However, such responses are more curative than preventive. A lot of time is also lost between recognising an environmental problem, finding the solution and taking action.

Presently, both within the Government and outside, there is growing concern that environmental problems should be anticipated and that action should be directed not just to the immediate consequences but to the underlying causes.

1. How Can We Participate Now?

The most degraded and depressing environment can be regenerated and brought to life. Start by becoming involved in your own local environment.

1. **Get together** regularly, with people who share the same interests and concerns, in your own neighbourhood or school. Join existing groups or build a group of your own.

2. **Collect information** from a variety of sources on selected issues. Do your own research; read books, newspaper articles; talk to specialists and ordinary people. Make an effort to understand different points of view, so that you look at all sides of an issue. But don't rely on the experts' opinion alone. Make up your own mind — and if you need to do so, don't be afraid of changing your mind on an issue as you learn more about it.

3. **Establish contacts** with Government officials and those in authority. When a crisis develops, it is difficult for people to establish contacts with people in positions of authority. Don't wait for a crisis. For instance, you could invite the officials in charge of some aspect of the local environment — parks, water supply, or sanitation — to come and talk to you about their work. This will help you to understand their problems. If later you find that trees in the park are being cut down, or the garbage on the streets is not being cleared it will be easier to communicate your concern to an official you already know.

5. **Question changes** being planned in your area. This is your right as a citizen. Questioning change, does not necessarily mean opposing change. But you have the right to know why something is being planned and how it is going to be carried out. Be alert to what is happening around you — ask why a particular area is being cleared, or a pond is being drained.

5. **Analyse a situation**. When you begin to question changes around you, it helps you to analyse a situation, and it forces those who propose the changes to prove that these are ecologically and socially advantageous.

6. **Express your opinions.** Knowing that the people are interested in their environment, and are articulating their concern, itself makes planners more careful about the schemes they devise. Use all the avenues available to you. Write letters to the newspapers and civic bodies. Draw posters, act plays, sing songs. Use your imagination.

7. **Learn to lobby.** When you have a specific issue that you want action on lobby your local representatives — your local Councillor, even your M.P. Get others to do so too. There are many citizens groups which are not specifically concerned about the environment. But if you explain your case to them, they could support you.

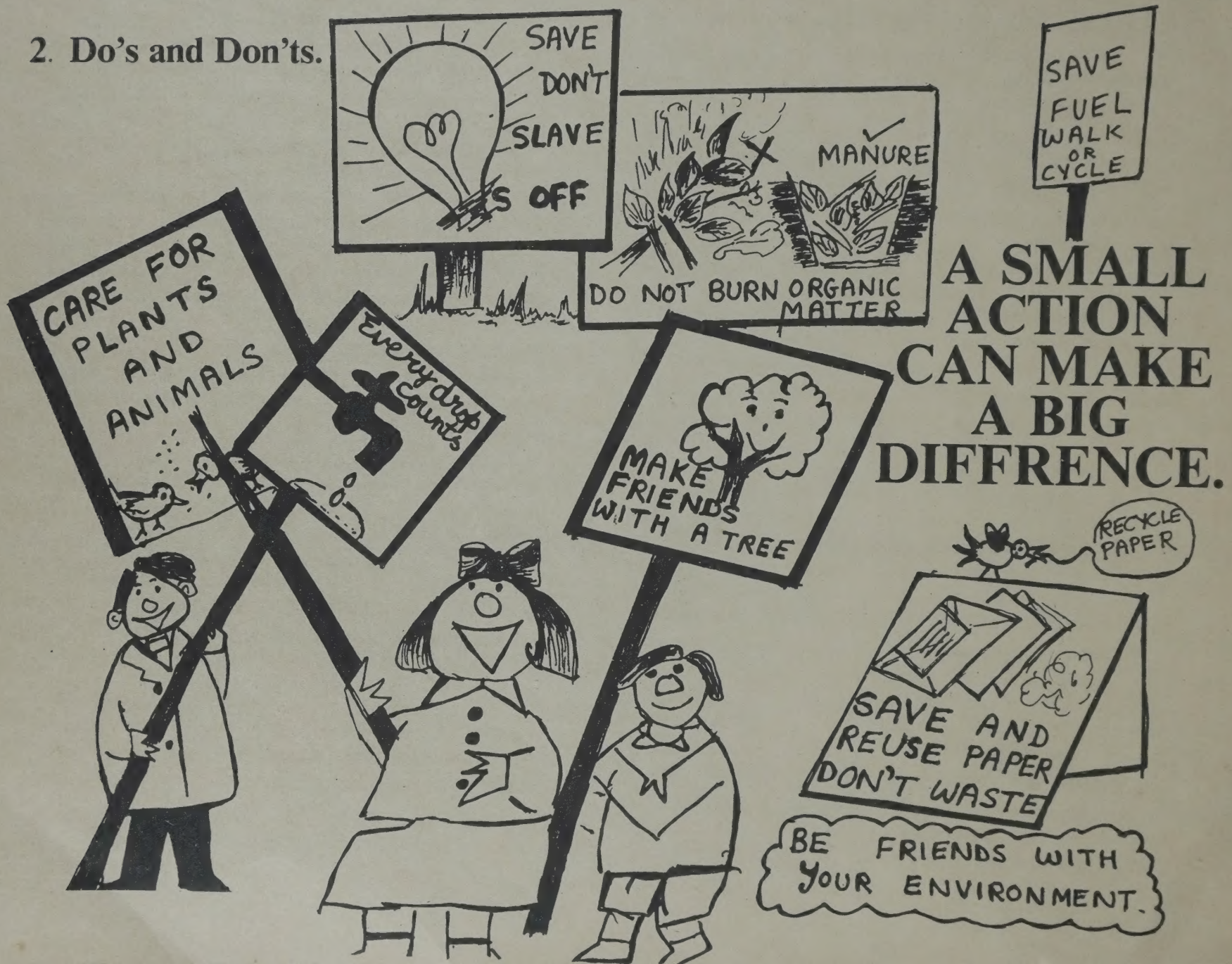
The local Press is often your best ally. Newspapers are always looking for 'stories', especially those with a human appeal. But be careful not to falsify or sensationalise, for this could spoil your case in the long run.

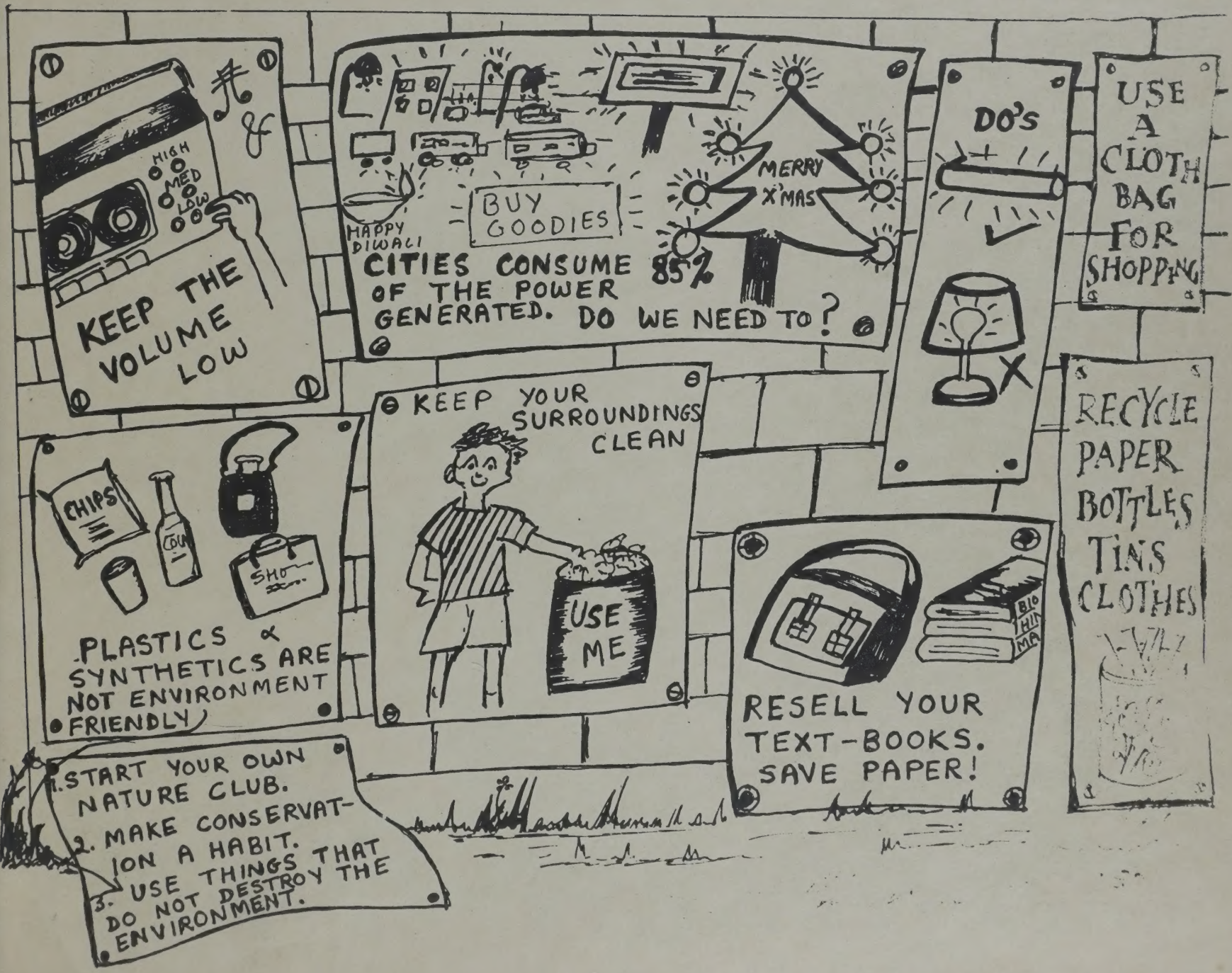
8. **Be persistent.** Participation requires patience, and a lot of hard work attending meetings, sending petitions, studying an issue. All of this consumes time and energy. Don't expect instant solutions.

9. **Be prepared for setbacks.** In the initial stages, the novelty of participating in a cause, of orgainising around an objective, can be very exciting and invigorating. But when results don't come quickly, or when the work piles up and you run into problems, environmental action might not seem quite such an exciting thing afterall. Don't worry, all groups go through such periods. when group activities coincide with school examinations, for example — and try to avoid such situations. It is also important to share routine and boring jobs equally within a group, so that some members don't get fed up with the rest.

10 **Nuture commitment** Have faith in yourself, in your group and its work. Commitment only comes through time .

2. Do's and Don'ts.




KEEP THE VOLUME LOW
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LOW
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CITIES CONSUME 85% OF THE POWER GENERATED. DO WE NEED TO?
DO'S
USE A CLOTH BAG FOR SHOPPING
KEEP YOUR SURROUNDINGS CLEAN
USE ME
CHIPS
PLASTICS & SYNTHETICS ARE NOT ENVIRONMENT FRIENDLY
RESELL YOUR TEXT-BOOKS. SAVE PAPER!
RECYCLE PAPER BOTTLES TINS CLOTHES
1. START YOUR OWN NATURE CLUB.
2. MAKE CONSERVATION A HABIT.
3. USE THINGS THAT DO NOT DESTROY THE ENVIRONMENT.

3 Environmental Movements

How much impact has India's growing environmental movement had on the country's development schemes ?

The case of the Silent Valley controversy is significant. The move to conserve a tiny stretch of virgin monsoon forest in Kerala, rather than dam it for 60 megawatts of power, confronted an orthodox development belief: that the need for cheap power overrode other considerations.

Some 7,000 activities of the Kerala Sastra Sahitya Parishad waged a sustained campaign to educate people about the importance of preserving the gene pool contained in the Silent Valley forest. The late Prime Minister Indira Gandhi stopped the project, but not before the group had gained support of the International Union for the Conservation of Nature and Natural Resources and the World Wildlife Fund.

Such clear-cut victories for local environmentalists are relatively rare, but the plans of industrialists are being modified. The argument over the location of the Mathura Oil Refinery near the Taj Mahal resulted in a decision by the Indian Oil Corporation to use low-sulpur oil at the refinery, in order to reduce acid pollution damaging the Taj's marble facade.

The company also closed two power stations which contributed to "acid rain", and as a result sulphur di-oxide levels in the vicinity of the Taj have dropped by about 75%. Now Indian Oil officials quip that "the refinery is the best thing that could have happened to the Taj."

Sometimes environmentalists have failed to make their case. When it was proposed that the world's biggest fertiliser plant be situated near Bombay, their claim about pollution dangers were found to be in error. Better arguments against the $780 million plant were that it would generate only 1,500 jobs and would not benefit poor local farmers.

According to a member of the official study group of the plant's location, the same sum, invested in small-scale irrigation, would turn a large arid crescent of Bombay's Maharashtra state into "the granary of India".

Perhaps the major impact of India's environmental movement has been to reverse the assumption that large-scale projects equal progress, and to ensure that the questions "Who benefits from development ?", and "Is the benefit environmentally sustainable ?", are raised before such projects get to go ahead.

— Darryl D'Monte/Earthscan London, 1986.

4 Footprints in the sand

As things go in the world today, going on a walk is nothing very special. People walk for peace, for the freeing of political prisoners, to stop nuclear war,to ensure freedom of speech, to combat racism, to protest against violation.

To that extent,our walk wasn't very special either. We walked around Silora Block, the development block we work in, covering 63 villages in 23 days. We walked to talk to the villagers about the state of our environment, and the forces that destroyed it and are destroying it even today. We also walked to learn from the villagers, because it is they who live in this depleted environment, and suffer daily at its hands, and their experiences would naturally be worth far more than our necessarily superficial knowledge and theories.

But there were differences that made our Jatha, or walk, very special, especially to us. For one thing, it was not a lecture tour but a Jatha rooted in the performing arts, with its main messages coming out through plays and puppet shows

Secondly the content of our plays and puppet shows, continuously changed... The consciousness of the people we met thus became part of the spirit of the Jatha.

Thirdly, the Jatha put many of us truly in the shoes of the poor villager, because we walked as he walks, ate as he eats, drank as he drinks. Not for an hour or two or a day or two, but for 23 days. When there was no room for all of us indoors, we slept in desert cold outside. Every morning, we saw people even colder, in rags without a blanket. If a little hungry, we lived among people to whom this hunger was anonymous daily routine.

Dancing, singing, laughing were to us the very soul of the Jatha because we feel that a change in heart can change the world; but a change in the head often only changes a man's opinion .

Fifthly, the Jatha looked at environmental issues from the worm's eye view, from the point of view of the poor Indian farmer who knows what it is to not have enough to eat, to walk many miles for a potful of barely palatable water, to work all day in the sun for seven or eight rupees. We cannot caution them for cutting trees unless we cook their food and feed their goats for them. Telling them not to overwork their soil sounds incongruous, when they do not have enough to eat... The answers had to arise in the context of the environment they lived in, because that was the only way that any change would be possible in the framework of their lives.

Sixthly, the Jatha brought the vicious nexus between governmental forces and big business interests, and its direct connection with the ravaging of our environment, squarely into the field of discussion. The poor villager, who is almost always at the receiving end of shortages, problems and inequalities, who barely keeps body and soul together and is the victim of systematic exploitation, knew only too well of what we were talking about.We exhorted them to raise a common voice that lackadaisical officaldom could not ignore, and demand rights guaranteed to them by the Constitution. We also asked them to consider the fact that, they should work collectively to protect their immediate environment, because the wages of its degradation would in the final event have to be borne by them. In a vast majority of villages, the people understood this...

Lastly, and perhaps most importantly, the Jatha was an intensely participative experience in the broadest and most meaningful sense of the word. There were no footprints in the sand. The footprints were in our hearts.

— *Amit Jayaram/ Footprints in the Sand-I,*
Social Work and Research Centre, Tilonia Rajasthan, 1988

5. The Women of Khirakot

There is a village called Khirakot in Kosi valley, which is very near Lakshmi Ashram. The women there asked themselves in 1975: why do we not stop cutting trees in this dying forest and leave it for two or three years to regenerate ? It was not the men who had thought of this solution but the women who were facing a problem of fuel and fodder shortage. They did not sit down for a meeting with a chairperson or anything like that, but while returning from the forest in groups of ten to twelve, they used to talk about the problem. Once they had decided, they preserved the forest so well that in two years the trees were tall and green everywhere.

But in 1977, a lease was sanctioned to a contractor by the district authorities for mining soapstone. The women were very disappointed but they did not know how to stop it. When they asked their menfolk, the men said, "It is difficult, because this contractor has money and then he has the backing of the government and we can not do anything." The women kept quiet and in two years, they realised that the debris from this soapstone was flowing into the rivers.

They again raised their voice : "Our children are getting sick because of this polluted water, and we can not stop it." But again the men said, "No the mine is not the reason. We will bring medicines for the children." After two or three months, the rains came and the debris descended onto the villagers' fertile, cultivated land. For the women who had to work in the fields, this was the last straw on the camel's back. First their springs dried up and now their grazing lands and forests were getting destroyed. The fields were also getting affected by the trains of mules carrying soapstone. They said, "Now we will leave the men aside and start working against this mine." They went home and told their men, "If you do not do anything, we are going to stop this mine, because it is not only our hill that is going to be destroyed but it is a question of bread for our next generation. We have to look after this land, our houses and our pastures.

For two and a half years, these women and about 80% of the men campaigned. They decided to march towards the factory. There was a small mining unit and they went quietly. They did not have slogans, just one or two banners, proclaming that this is destruction. They came home and held a small meeting to talk about the problems.

The next day there was a summon from the court for 22 people from the village who had picketed the factory. These 22 were the poorest of the village who were not even in the procession. The villagers came together – the women were stronger than the men and decided, "We have to fight this in court." The men

asked, "From where will we get the money ?" The women went from door to door and the money came. In two and a half years, the villagers spent Rs. 10,000 and fought the case. At the same time, they launched a people's movement. The two things went together — fighting the court case and the popular movement. Finally, the villagers of Khirakot succeeded and the mine was stopped in 1981.

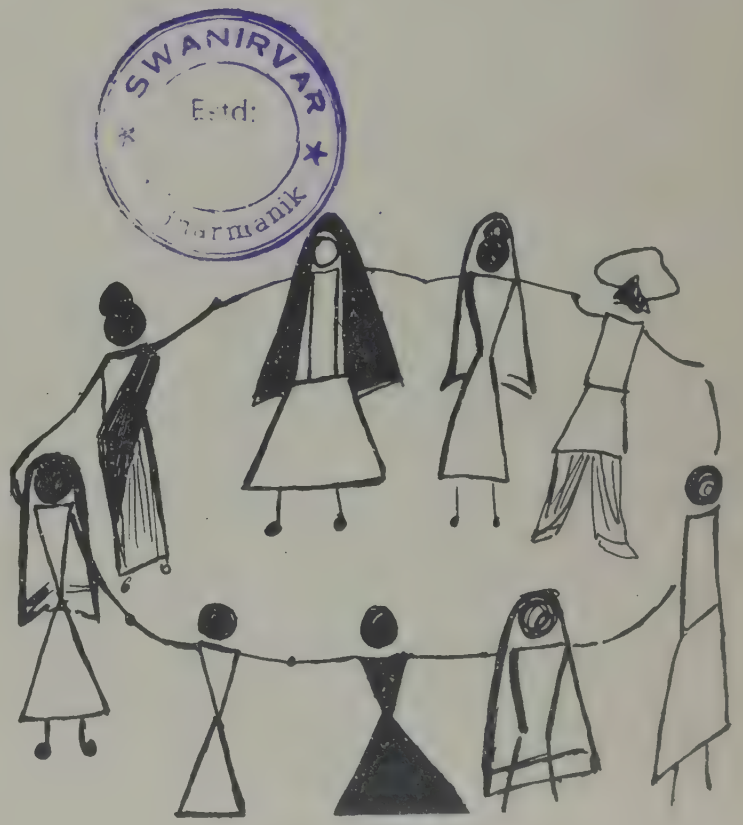
But the villagers did not stop. They said, "No, it is not that we want to stop this mine, we want to save our pasture land, our forests and our farming land. How can we reclaim the quarries and make our forests prosper ?" So they reclaimed 100 feet wide quarries and planted trees. The whole forest was soon so dense that within two years a leopard came to stay inside the forest and in one month killed 19 cows. The women asked, "What do we do now ?" The forest department people suggested that they cut down the lower branches, because the forest was so dense. Then the leopard will not get a place to hide.

There are 150 families in Khirakot and Khakoli villages and 150 women would assemble at one place to do both community and personal work. They formed groups of ten—15 groups would cut some 6,000 headloads for fuel.

Khirakot decided to start handicrafts for the women. They wanted to start in winter, because they thought there would be more time then. They decided that they would start cottage industries to boost their economy and generate a richer environment based on the Gandhian principles of village independence, decentralised development and dignity.

This idea of stopping mining started from Khirakot and soon its people wanted to tell other people also about the many different mines in Kumaon. The Khirakot mine owner, when his lease was cancelled, simply went to another place. The women went to Lakshmi Ashram and pleaded, "Please go to this other place because we have heard that the contractor has gone there and our sisters will face the same kind of difficulty. "Since then we have been to many places. In some places we have scored success but elsewhere, these have eluded us. The contractors are better organised these days and they are trying their best to break the growing movement.

—*Radha Bhatt The Fight for Survival,*
Centre for Science and Environment New Delhi, 1987.



6. The Trouble with Rayon

1989

People's need vs. Rayon
Extract of Letter Proposed to be sent to :
The Prime Minister
Government of India
New Delhi

Sir,

Subject : Abolition of the joint sector company called Karnataka Pulpwood Ltd. (KPL)

As you may be knowing, the Government of Karnataka, through its Forest Department, entered into an agreement with the Harihar Polyfibres Factory (HPF), belonging to the Birlas, constituting a joint sector company, the Karnataka Pulpwood Ltd. (KPL). The purpose is to grow eucalyptus wood for the Harihar Polyfibres Factory. A total area of 75,000 acres of common lands belonging to the Revenue and Forest departments has been earmarked for transfer to KPL for this purpose. The transfer of lands has been occurring in stages since 1984 in direct contravention of the Forest (Conservation) Act, 1980, a central enactment, and is about to deprive over 5 lakh rural poor of Karnataka of their daily need of fodder, fuel, organic manure, small timber and raw materials for village industries.

The best way of alleviating poverty would be to regenerate the common lands suitably and to maximise their yields of the basic necessities of the rural poor such as fodder, fuel, manure and small timber. Turning over the common lands which once served as a resource base for the survival of the poor and the landless, to private interests for exclusive utility, and exploitation of the common lands by private profit-making entities will only help the rich to get richer at the expense of the poorest of the poor, and negate the basic tenets of our Constitution.

In Karnataka, miles and miles of monoculture plantations of exotic and socially irrelevant species like Eucalyptus and Acacia have been raised in place of natural forests. With the formation of Karnataka Pulpwood Ltd., the government has gone a step further in this patently unjust and retrogressive policy by permitting the private interests which have already expropriated the forests to expropriate land itself. Such privatisation is in violation of the Forest (Conservation) Act, 1980.

We the undersigned appeal to you to immediately abolish the Karnataka Pulpwood Ltd. and revoke the agreement signed between the Government of Karnataka and the Harihar Polyfibres Factory.

Revoking the agreement with the Harihar Poly-fibres and abolishing Karnataka Pulpwood Ltd. could only give effect to the provisions of the Forest (Conservation) Act, 1980.

Thanking you in anticipation

Yours Sincerely,
D.M. Chandrashekar
(Retd. Chief Justice of Karnataka)
and others.

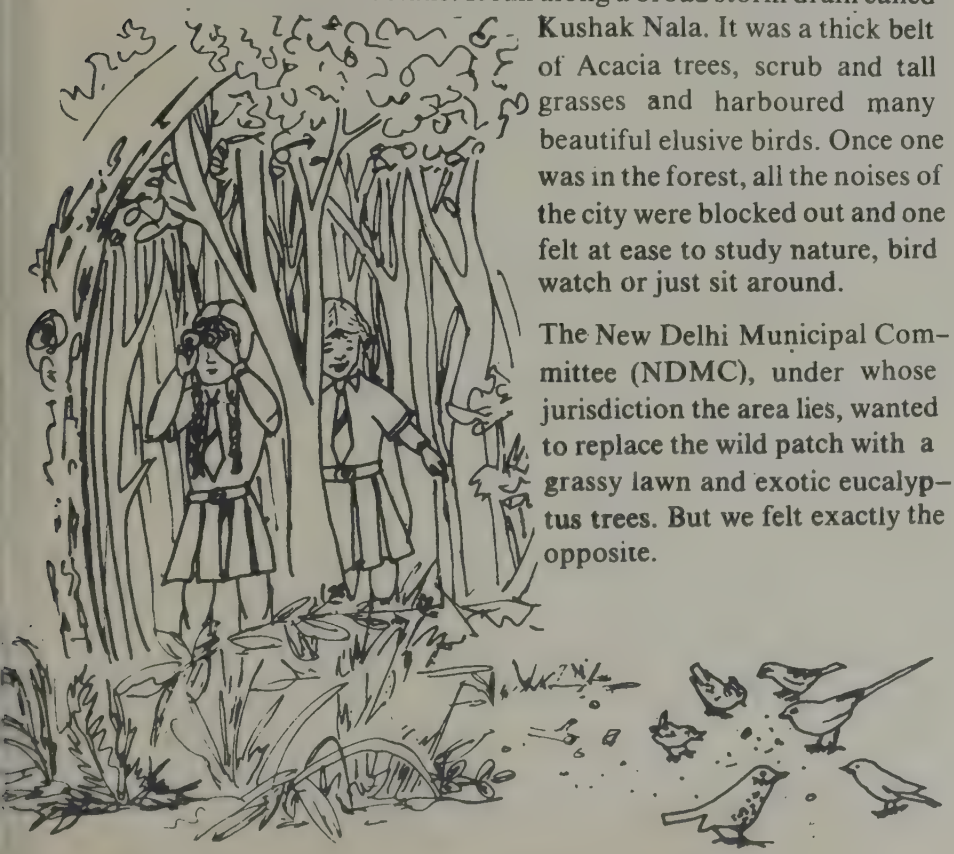
Samaj Parivartan Samodaya
Jayanagar Cross, Saptapur,
Dharwad - 530001, Karnataka.

7 The Trees of Kushak Nala

It is generally believed tht individuals (especially school-children) on their own can do little to stop misguided development plans or the destruction of what little is left of our natural resources.

But in the June 1987, we (then a group of school children belonging to a Nature Club Network) discovered to our surprise, that in spite of all the powerful interests operating, we could indeed stop such destruction, given determination and perseverance.

A patch of forest in the residential area of Chanakyapuri in New Delhi was at stake. It ran along a broad storm drain called Kushak Nala. It was a thick belt of Acacia trees, scrub and tall grasses and harboured many beautiful elusive birds. Once one was in the forest, all the noises of the city were blocked out and one felt at ease to study nature, bird watch or just sit around.



The New Delhi Municipal Committee (NDMC), under whose jurisdiction the area lies, wanted to replace the wild patch with a grassy lawn and exotic eucalyptus trees. But we felt exactly the opposite.

In the first week of June, the NDMC's labourers had started to cut the trees down. We got to know about this. Making use of June 5 (which is World Environment Day), we wrote a strong protest, to the authorities and sent it to the Press. Armed with copies of our protest, we barged into the various VIP seminars being held all over the city where ministers and councillors were busy pontificating on the merits of saving the environment from destruction ! We demanded an opportunity to speak as well, and used it to register our protest against deforestation in Kushak Nala. Though it was all reported in the Press, the lethargic authorities did not feel it necessary to respond. A week later we wrote another Press Release to the four major dailies in the Capital, mentioning all the details. A huge photograph of the felled area, appeared in the Press, and finally shook the officials out of their stupor.

This was only the beginning of a long struggle. At meeting after meeting we tried to convince the administration of our case, and even met the Lt. Governor of Delhi, twice.

For a long while, due to the bad publicity, the trees got a reprieve. We were assured that nothing more would be done till a decision was taken at a higher level. We don't know whether any proper decision was taken but the trees were not cut anymore.

The whole process was an important lesson for us. We learnt how to protest against meaningless destruction, how to present our case and how to exercise our rights. Above all we discovered our own power and confidence.

—*Gazalla Shahabuddin* Kalpavriksh, Delhi

8. The Doon Mines Judgement

Environmental activists approached the Supreme Court in a conflict over limestone mining in the Doon Valley. In August 1983, the Court appointed a committee headed by D.N. Bhargava (Controller General, Indian Bureau of Mines, Nagpur) to inspect the quarries. The central Government also appointed a Working Group to study the issue. Both committees ruled that certain categories of mines be closed down. Following this, in its first major judgement on an environmental issue, the Supreme Court ordered several mines in the Dehradoon-Mussoorie area to be closed.

Condensed from the Supreme Court judgement of 12 March, 1985.

This case has been argued at great length before us not only because a large number of lessees of limestone quarries are involved and each of them has painstakingly and exhaustively canvassed... factual as well as legal points of view but also because this is the first case of its kind in the country involving issues relating to environment and ecological balance and the questions arising for consideration are of grave moment and significance not only to the people residing in the Mussoorie Hill range forming part of the Himalayas but also in their implications to the welfare of the generality of people living in the country. It brings into sharp focus the conflict between development and conservation and serves to emphasise the need for reconciling the two in the larger interest of the country...

We shall not examine in detail the question as to whether limestone deposits act as aquifers or not. But there can be no gainsaying that limestone quarrying and excavation of the limestone deposits do seem to effect the perennial water springs. This environmental disturbance has however to be weighed in the balance against the need of limestone quarrying for industrial purposes in the country and we have taken this aspect into account while making this order.

We are clearly of the view that so far as the limestone quarries classified in category C in the Bhargav Committee Report are concerned, which have already been closed down under the directions of the Bhargav Committee, should not be allowed to be operated. If the lessees of these limestone quarries have obtained any stay order from any court permitting them to continue the mining operations, such stay order will stand dissolved and if there are any subsisting leases in respect of any of these limestone quarries they shall stand terminated without any liability against the State of Uttar Pradesh.

We would also give the same direction in regard to the limestone quarries in the Sahasradhara Block even though they are placed in category B by the Bhargav Committee. So far as these limestone quarries in Sahasradhara Block are concerned, we agree with the Report made by the Working Group and we direct that these limestone quarries should not be allowed to be operated and should be closed down forthwith. We would also direct, agreeing with the Report made by the Working Group that the limestone quarries placed in category 2 by the Working Group other than those which are placed in categories B and C by the Bhargav Committee should also not be allowed to be operated and should be closed down...

So far as the limestone quarries classified as category A in the Bhargav Committee Report and for category I in the Working Group Report are concerned, we would divide them into two classes, one class consisting of those limestone quarries which are within the city limis of Mussoorie and the other consisting of those which are outside the city limits. We take the view that the limestone quarries falling within category A of the Bhargav Committee Report and for category I of the Working Group Report and falling outside the city limits of Mussoorie, should be allowed to be operated...So far as the limestone quarries classified in category A in the Bhargav Committee Report and or category I in the Working Group Report and falling within the city limits of Mussoorie are concerned, we would give the same direction which we are giving in regard to the limestone quarries classified as category B in the Bhargav Committee Report.

That takes us to the limestone quarries classified as category B in the Bhargav Committee Report and category I in the Working Group Report. We do not propose to clear these limestone quarries for continuance of mining operations nor to close them down permanently without further inquiry. We accordingly appoint a high powered Committee...Lessees of the limestone quarries classified as category B in the Bhargav Committee Report will be at liberty to submit a full and detailed scheme for mining their limestone quarries to this Committee...

The Committee will proceed to examine the same without any unnecessary delay and submit a report to this court whether in its opinion the particular limestone quarry can be allowed to be operated in accordance with the scheme and if so, subject to what conditions and if it cannot be allowed to be operated, the reasons for taking that view. The Committee will also insist on a broad plan of exploitation coupled with detailed mining management

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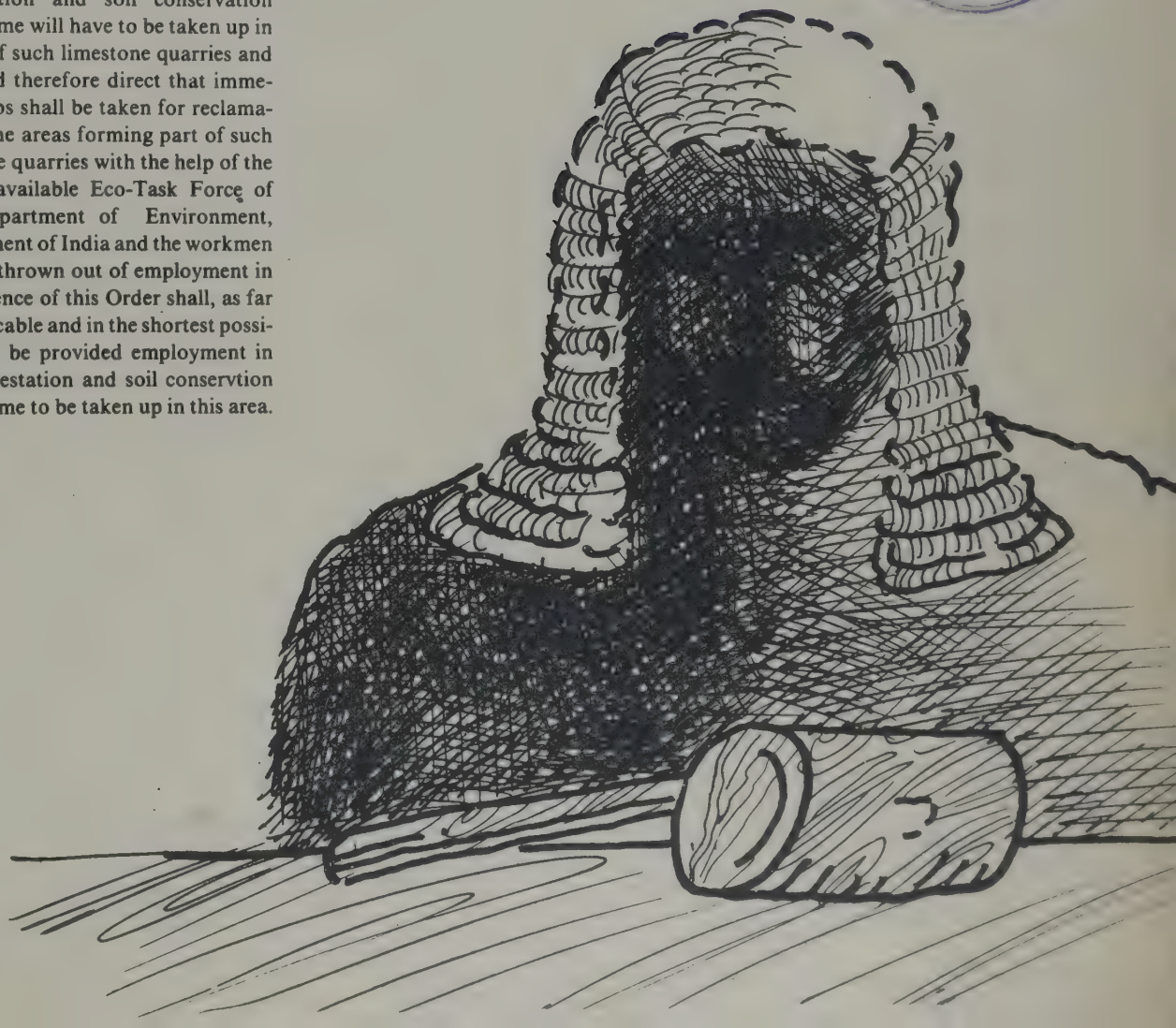
plans to be submitted alongwith the scheme or schemes and take care to ensure that the limestone deposits are exploited in a scientific and systematic manner... The Committee will also be entitled to hear the petitioner, the interventonists in this case and such other persons or organisations as may be interested in maintenance and preservation of healthy environment and ecological balance. The Report submitted by the Committee in each case will be considered by the Court and a decision will then be taken whether the limestone quarry or quarries in respect of which the report has been made should be allowed to be operated or not. But until then these limestone quarries will not be allowed to be operated or worked.

The consequence of this Order made by us would be that the lessees of limestone quarries would be thrown out of business. This would undoubtedly cause hardship to them, but it is a price that has to be paid for protecting and safeguarding the right of the people to live in healthy environments with minimal disturbance of ecological balance and without avoidable hazard to them to their cattle, homes and agricultural land and undue affectation of air, water and environment. However, in order to mitigate their hardship, we would direct the Government of India and the State of Uttar Pradesh that whenever any other area in the State of Uttar Pradesh is thrown open for grant of lime stone or dolomite quarrying, the lessees who are displaced as a result of this order shall be afforded priority in grant of lease of such area.

We are conscious that as a result of this Order made by us, the workmen employed in the limestone quarries which have been or which may be directed to be closed down permanently will have to be reclaimed and afforestation and soil conservation programme will have to be taken up in respect of such limestone quarries and we would therefore direct that immediate steps shall be taken for reclamation of the areas forming part of such limestone quarries with the help of the already available Eco-Task Force of the Department of Environment, Government of India and the workmen who are thrown out of employment in consequence of this Order shall, as far as practicable and in the shortest possible time, be provided employment in the afforestation and soil conservtion programme to be taken up in this area.



9 Narmada : The Alternative Perspective

For too long has river-valley planning in our country been dominated by a narrow and conservative engineering approach. The immense burden of submergence borne by the river-valley people and the possibility of designing projects to meet their needs have both been completely overlooked. Gross distributive injustice has resulted from such an approach. The need of the hour is a real Narmada Valley Development Plan which leads to the overall development of the people of the Narmada valley and not the present Narmada Valley Project which symbolises the destruction of their lives and their environment.

To develop such a plan we need to first make a radical break with the approach adopted so far in this sphere. We must acknowledge that there are definite limits both to the extent and the manner in which we can utilise the waters of our major rivers. We cannot continue to look at a river merely as a succession of sites for the impoundment of water, some of which may be convenient from an engineering point of view. In their obsession with not letting river water flow 'uselessly' into the sea some of our engineers completely forget the deeper spiritual significance a river can have for its people. This significance is, moreover, not merely religious in any narrow sense, but must be regarded as encompassing social, economic and technological ramifications.

Whenever we do think of reservoir formation on a major river, the key variable must be *topography* — in the broadest sense of the term. This means that we need to consider not only how far the impounded water can be contained within the river-gorge, but also the nature of the area of potential submergence whether it is inhabited and if so, how densely, whether it includes fertile land, whether it is forested, etc. It also helps to remember here that the technical relationship between the height of a dam and its submergence area is rapidly exponential after a certain height

Keeping this in mind, we must attempt to answer the critical question: What is the level of *maximum permissible submergence* in terms of people, forests and agricultural land ? In determining the size of any river-valley project, we must regard this as the decisive criterion. No project which exceeds this level of submergence should be granted clearance.

The history of large dams in India has been a history of the veritable genocide of a segment of our people, whose sense of alienation from the mainstream development process is already very deep and certainly well-justified. The Narmada experience has amply demonstrated that whatever the pretence of the government, 'resettlement and rehabilitation' of vast numbers of people remains an impossibility. Thus special care must be taken to involve the people living in the area of potential submergence in any decision regarding the maximum permissible level. We must also bear in mind that loss of forest cover beyond a critical point could so irreversibly disturb the dynamic equilibrium between forest and climate, that no amount of 'compensatory afforestation' may be enough to regenerate the submerged forest.

Advocacy of the "principle of maximum permissible submergence" must not be construed as suggesting a neglect of the national goals of providing drinking water to our people and water for irrigation to our farmers. In fact, it only underscores the need to work out an alternative non-destructive and sustainable strategy for fulfilling these objectives as urgently as possible. What is truly remarkable is that, even from a purely economic and technical point of view,

the observance of this principle and the need to formulate an alternate strategy has become an absolute imperative. A review of the experience of large river-valley projects, based entirely on the work of our irrigation experts, shows that on all these accounts we must call for a *moratorium on fresh starts to large dams in India* — and move decisively in the direction of a new national water policy.

The broad outlines of an alternative Narmada Valley Development Plan are thus, more or less clear. Saying a firm no to projects which exceed the level of maximum permissible submergence, we need to work out an optimal mix of improved dry farming technology, watershed development, small dams, lift schemes for irrigation and drinking water, improving the efficiency of major projects that are already complete, reclamation of land damaged by canal irrigation, immediate review of on-going major projects and expeditious completion of those regarded as viable, and better utilisation of already created irrigation potential. We must also develop a combination of energy conservation measures, decentralised power generation and centralised natural gas plants. The primary consideration must be the possibility of quick implementation with maximum involvement of the local people — in a manner which is non-destructive and sustainable —both ecologically and financially.

—Baba Amte

Read : *The Case Against the Narmada Project and The Alternate Perspective* by Baba Amte.
(Anandvan, Warora, Chandrapur District 442914, Haryana.)

10 Pani Panchayat

Alternatives to large scale and centalised irrigation projects have always existed in India. Many of these can legitimately claim superior performance on grounds of production efficiency and equity. This difference derives not merely form their typically smaller scale but more from their decentralised character.

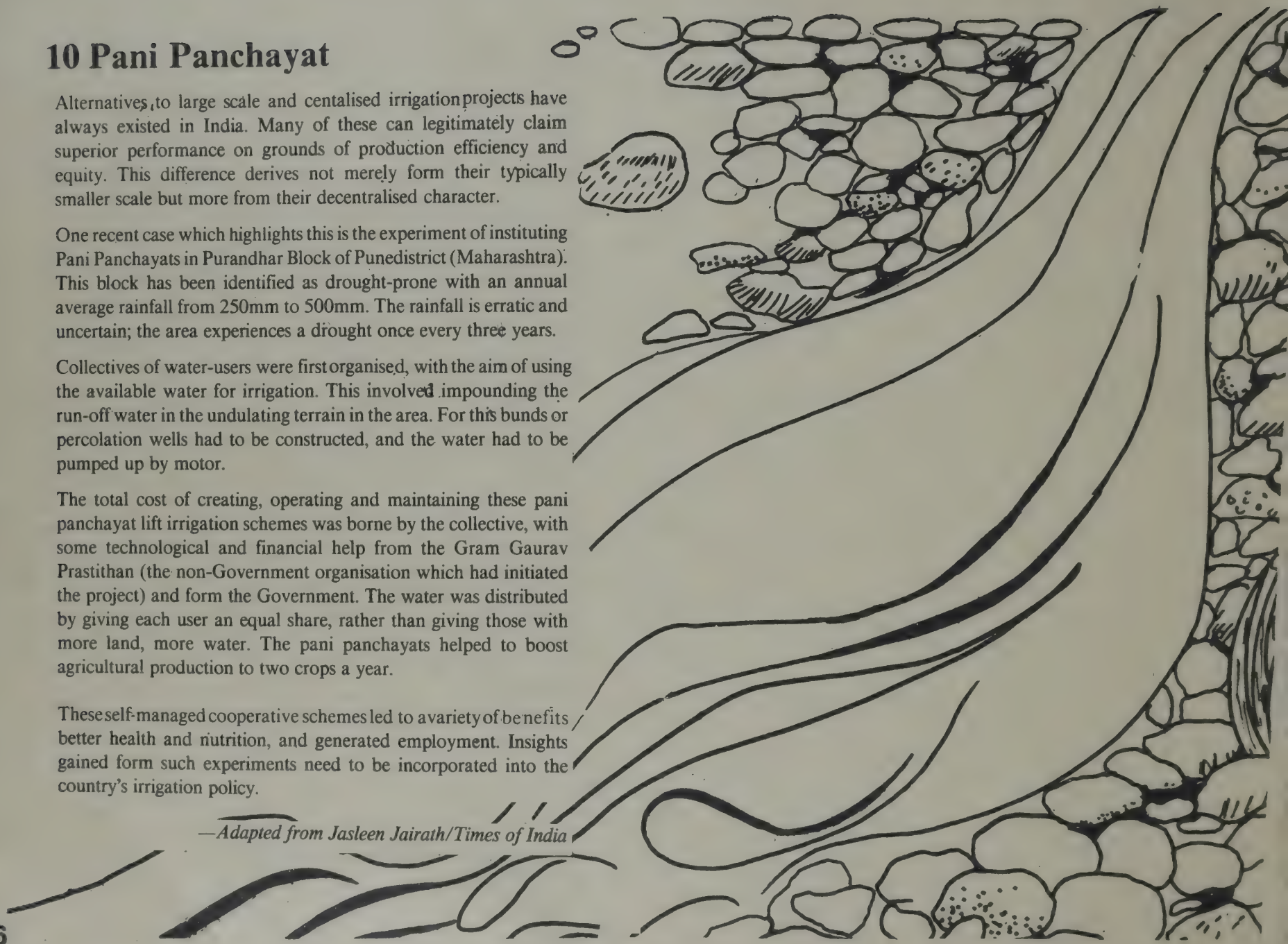
One recent case which highlights this is the experiment of instituting Pani Panchayats in Purandhar Block of Punedistrict (Maharashtra). This block has been identified as drought-prone with an annual average rainfall from 250mm to 500mm. The rainfall is erratic and uncertain; the area experiences a drought once every three years.

Collectives of water-users were first organised, with the aim of using the available water for irrigation. This involved impounding the run-off water in the undulating terrain in the area. For this bunds or percolation wells had to be constructed, and the water had to be pumped up by motor.

The total cost of creating, operating and maintaining these pani panchayat lift irrigation schemes was borne by the collective, with some technological and financial help from the Gram Gaurav Prastithan (the non-Government organisation which had initiated the project) and form the Government. The water was distributed by giving each user an equal share, rather than giving those with more land, more water. The pani panchayats helped to boost agricultural production to two crops a year.

These self-managed cooperative schemes led to a variety of benefits better health and nutrition, and generated employment. Insights gained form such experiments need to be incorporated into the country's irrigation policy.

—Adapted from Jasleen Jairath/Times of India



11 Tourists : Threat to Gangotri

The increase of environmental consciousness in recent years has been paralleled by an increase in tourism to wild areas for recreation, adventure or sport. Ionically, tourism itself threatens these areas. Think of the ways in which tourists affect the natural environment, and how damage can be stopped.

The rapid environmental degradation around Gangotri has forced the Uttar Pradesh government to restrain tourists from staying overnight in the area.

The U.P. government has also constituted a special Gangotri Development Authority which will be responsible for implementing various schemes to restore this holy place to its past beauty.

Officials say that this step has been taken for fear that the Gangotri glacier may recede even further. There is evidence that with the exploitation of the forests and the consequent soil erosion, the glacier has been receding at the rate of about two to three metres every year. Earlier, the glacier began at Gangotri itself, but has now receded to beyond Gomukh.

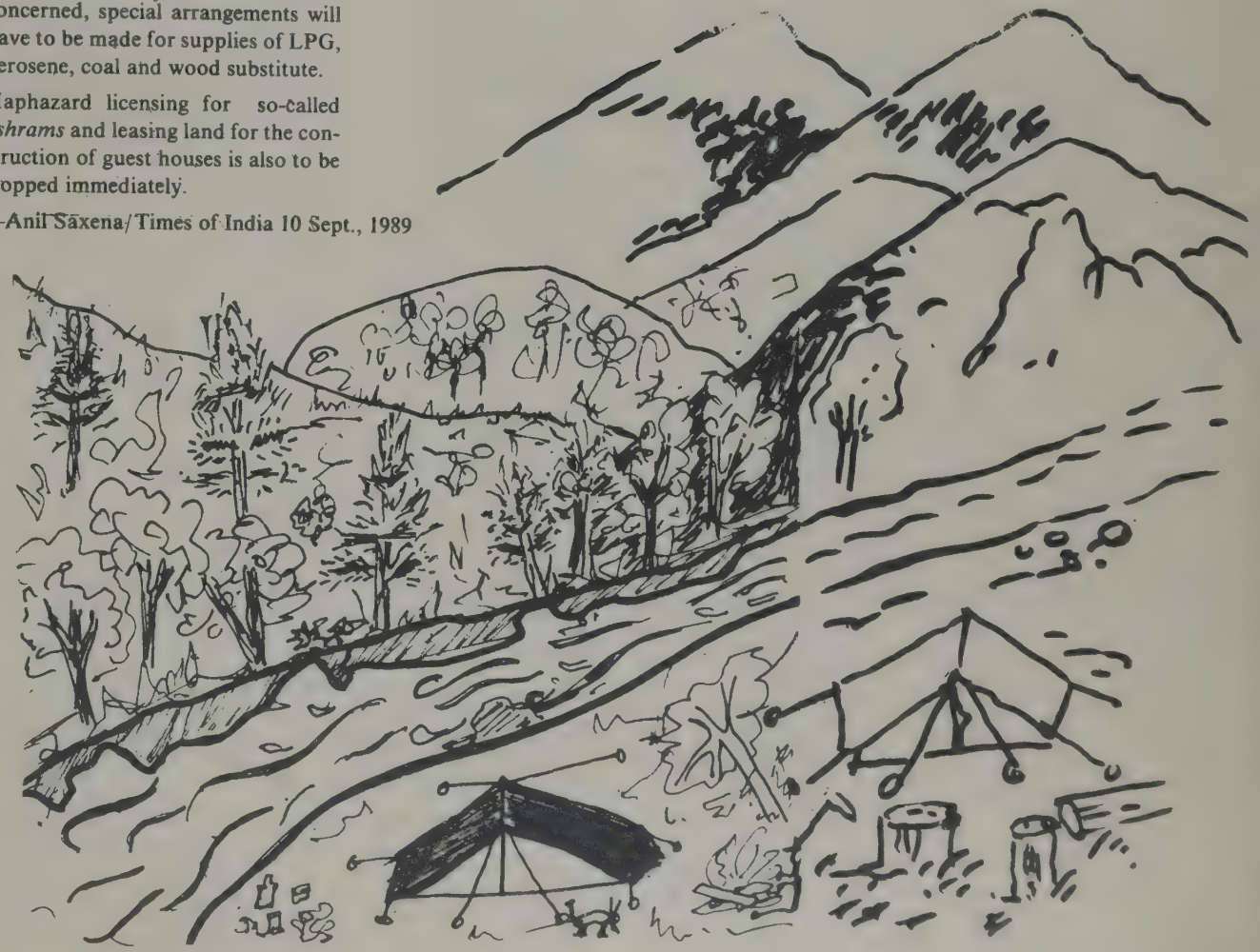
The Gangotri Development Authority is considering setting up a trekking point with stables for mules and various other facilities on the land at present used as a helipad at Gangotri. This helipad has been rarely used, if at all, during the past four years, and moreover, the presence of a helipad at this point runs counter to the policy of limited access to Gangotri.

Water supply and sewage facility are to be provided for merely limited population which includes the residents of Gangotri.

Power supply and domestic fuel are said to be the major problems confronting the Authority. The Kedar Ganga hydel power plant can provide 20 kw and additional power, if required, can be supplied from Harsil. The additional power will be required largely at Lanka and Patanga, where accommodation facilities are to be developed. As far as domestic fuel is concerned, special arrangements will have to be made for supplies of LPG, kerosene, coal and wood substitute.

Haphazard licensing for so-called *ashrams* and leasing land for the construction of guest houses is also to be stopped immediately.

—Anil Saxena/Times of India 10 Sept., 1989



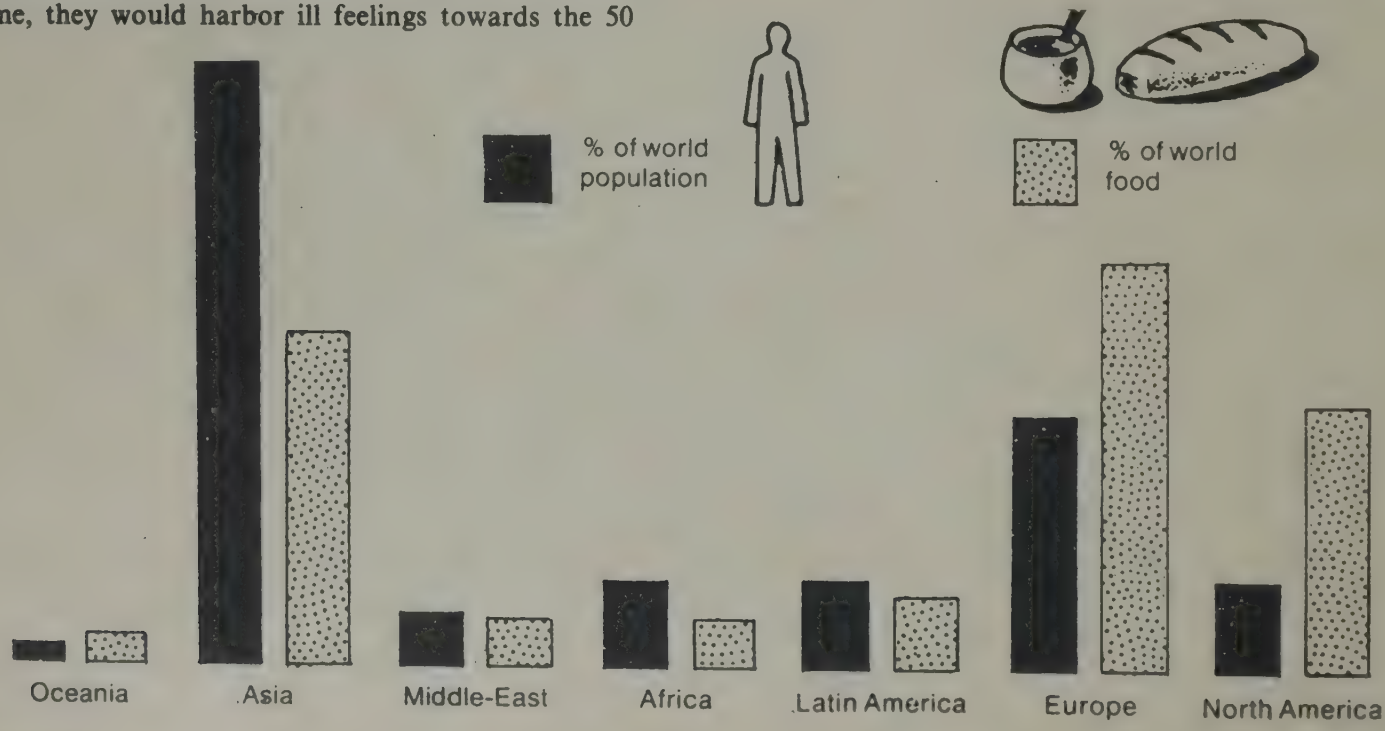
12 Population and Consumption

It is not only 'how many', but 'how much' which is key question. Here is a view from the United States of America.

Imagine that the world's population is reduced proportionately to equal the population of a town of 1000 persons. In this town, based on global statistics, 50 inhabitants would be Americans and 950 would be non-American. The 50 Americans would earn approximately half the total income of the town, would own 15 times the number of possessions of all others, and would use a highly disproportionate share of the electric power, fuel, steel, and other materials. The 50 Americans would produce nearly one-fifth of the town's food supply and eat approximately 70 percent more than their minimal needs require. Because many of the 950 non-Americans in the town would be hungry most of the time, they would harbor ill feelings towards the 50 Americans, who would appear to them to be enormously rich and ridiculously overfed. Of the 950 non-Americans, 200 would suffer at some time from malaria, cholera, typhus, or malnutrition. None of the 50 Americans would contract any of those diseases, and probably none would ever even worry about contracting them.

This scenario (based on figures developed by Dr. Henry Lepier) underscores the reality that, as Americans, we enjoy an enormous share of the world's advantages. However, the process of achieving and maintaining our affluent life-styles has imposed unexpected costs upon us, and at present we are plagued with numerous unforeseen problems associated with our way of life.

— *Josep M. Moran et al.*
Introduction to Environmental Science,
W.H. Freeman and Company, New York

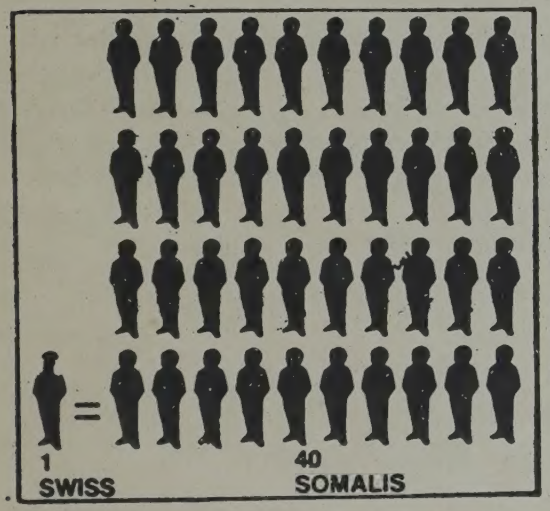


Feeding the Rich

In fact, over 20 million tonnes of cattle feed used by the countries of the European Economic Community originated in Africa, Asia and Latin America. This fodder generates every tenth litre of milk and every tenth piece of meat produced there.

— Buko-Agro-Koordination, West Germany

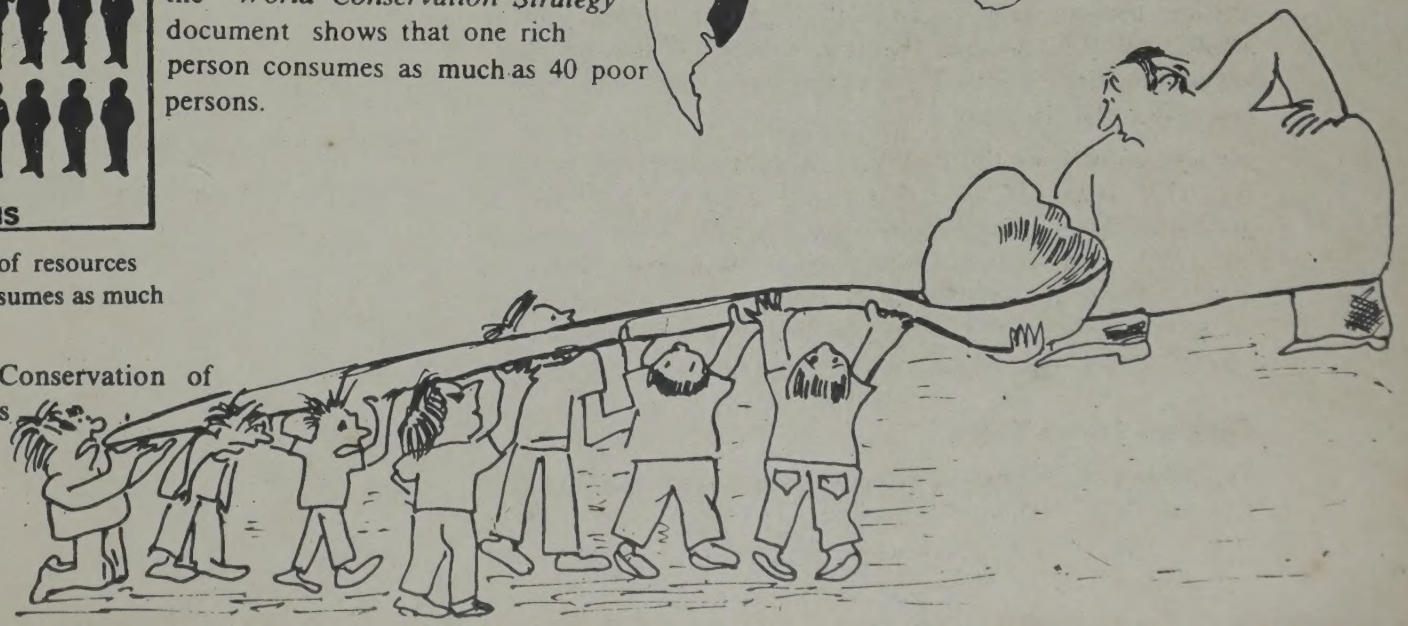
This graph of *World Population and the Consumption of food* shows clearly that the people of Asia, Africa and Latin (ie South) America consume much less food, proportionately, taken the people of Europe and North America.



A rich person consumes much more than a poor person. This makes the problem of scarce resources much worse. This extract from the *World Conservation Strategy* document shows that one rich person consumes as much as 40 poor persons.

Disproportionate consumption of resources by the affluent. One Swiss consumes as much as 40 Somalis.

—International Union for Conservation of Nature and Natural Resources (IUCN), Switzerland.



Population and the Environment

India's population in 1951 was 361 million. Thirty years later it was 685 million. In 1991 our population was 844 millions Although India's annual population growth rate has fallen steadily during the 1980s to just over two precent, because of the size of population, this still makes for a big increase in the total population. The key question now is: can India's land support such a large and growing population?

Studies show that India's enormous resource base, could theoretically, meet the food needs of all our people for at least a century, provided that the cultivated area under irrigation is increased. But this depends on good soil and water management, and on ensuring that irrigation does not result in destroying the land due to waterlogging and salinity. In the future if people do not have enough food to eat it may be more because of the mismanagement of natural resources than because of there being too many people for the land to support.

Although there are many gaps in our understanding of the linkages between poverty, population growth and environmental quality, we do know that large numbers of poor people are not the primary cause of environmental degradation. They are, in fact, the victims of it:

We also know from the experience of other similarly placed countries, and of Kerala, that the slowing of population growth is related to fulfilling the basic needs of all people and improving the socio-economic conditions of the disadvantaged sections of society. Above all, it depends on enhancing the potential and status of women and girls, and respecting their right to control their own future.

The Thread in the Web

The natural environment is a complex, evolving web of living and non-living systems. We humans are but a thread in the web of life. Yet, we have acquired enormous powers to mutilate, and perhaps even to destroy the web itself. But environmental catastrophes do not recognise any boundaries, and each one of us is affected sooner or later.

The perception of the oneness of Nature is a part of India's heritage. We have a long tradition of living in harmony with our environment. It is a tradition embodied in our various religious texts, fables and stories, and practised even today by some of our tribals and nomads, forest, desert and mountain dwellers. We have much to learn from these peoples: their methods of organic farming, their diets of natural foods rich in fibre, their systems of herbal medicine. We need to retrieve our traditional environmental values and the beneficial practices in our heritage.

An environmental ethic does not imply being against dams, against industry, against development. Forestry and mining are not themselves the problems. It is unsuitable dams, inappropriate industries, bad forestry and bad mining that are the problems. Concern for the environment must go together with concern for development based on the principles of ecological sustainability, equity and social justice.

Man did not weave the web of life,
he is merely a strand in it whatever he
does to the web, he does to himself.

— Chief Seattle

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SUBJECT WISE KEY TO ACTIVITIES

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DUE DATE	DUE DATE	DUE DATE

	ACTIVITY NUMBERS						
	SCIENCE	HISTORY	CIVICS	GEO-GRAPHY	MATHS	GAMES & QUIZ	SPECIAL PROJECTS
	5,7,8,10			1,3,4,5		8	10
	1,2,3,4, 5,6,7,8, 9,10,11			12	9	3,5,8,9	12
	3,4,5,6, 7,7a	5	3	2,4,5,6 8,9,10,11		2,10	12
	3,4,5,8 10	4,12	6,7,9,10	6,7	5	11	
	2,3,5,7 9,10,12		11			5	12
	6,7,2	1,4,9,10	3,5,8 10,11,12	1,9	3,8	12	11
	3,4,5,6 10,11		2		4	4	11,12
	5,6,8,9 10,11,12		3,5,6	4	9	8,12	

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